DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Indian Health Service
Rockville MD 20857

DEC - 6 2001

TO: Director, Office of Facilities Services
Office of the Secretary

FROM: Acting Director
Office of Public Health

SUBJECT: Energy Reports

I am responding to the August 21 memorandum from Mr. Dennis P. Williams, Acting Assistant Secretary for Management and Budget, asking for energy reports developed using the "Department of Health and Human Services Reporting Guidance for Fiscal Year 2001."

These reports have been sent electronically to Mr. Scott Waldman, Health and Human Services Energy Officer. The reports are organized in the following manner:

A. OMB Circular A-11, Exhibit 55 - Annual Energy Management Data Report (Updated)
B. Fiscal Year 2001 OPDIV Energy Use Report (Updated)
C. OPDIV Fiscal Year 2001 Energy Scorecard
D. OPDIV Annual Energy Report
E. OPDIV Implementation Plan

If you have any questions regarding the reports, please call CDR Adam Scully, P.E., Office of Environmental Health and Engineering, on (301) 443-4572.

Gary J. Hartz, P.E.
Assistant Surgeon General

Attachment

EXHIBIT 55 INFORMATION ON ENERGY USE, COSTS, AND EFFICIENCY

Annual Energy Management Data Report

Agency Indian Health Service
Date: 01-Sept-2001

Prepared by: Adam T. Scully, P.E.
Phone: 301.443.4572

PART 1: ENERGY CONSUMPTION AND COST DATA

1-1. Standard Buildings/Facilities

	Entry	Consumption units	FY 2001 Annual consumption	FY 2001 Annual cost (thou. $)	FY 2002 Annual consumption	FY 2002 Annual cost (thou. $)	FY 2003 Annual consumption	FY 2003 Annual cost (thou. $)
1101	Electricity	MWH	0	0	0	0	0	0
1102	Fuel oil	thou. gal.	0	0	0	0	0	0
1103	Natural gas	thou. cu. ft.	0	0	0	0	0	0
1104	LPG/propane	thou. gal.	0	0	0	0	0	0
1105	Coal	s. ton	0	0	0	0	0	0
1106	Purch. steam	BBtu	0	0	0	0	0	0
1107	Other	BBtu	0	0	0	0	0	0
1108		Total cost		0		0		0
1109	Standard Buildings/Facilities (thou. gross square feet)		0		0		0	

1-2. Industrial, Laboratory, Research, and Other Energy-Intensive Facilities

	Entry	Consumption units	FY 2001 Annual consumption	FY 2001 Annual cost (thou. $)	FY 2002 Annual consumption	FY 2002 Annual cost (thou. $)	FY 2003 Annual consumption	FY 2003 Annual cost (thou. $)
1201	Electricity	MWH	127,444	8,890	140,000	9,500	140,000	9,500
1202	Fuel oil	thou. gal.	1,362	1,756	1,500	1,600	1,500	1,600
1203	Natural gas	thou. cu. ft.	559,939	1,854	570,000	1,900	570,000	1,900
1204	LPG/propane	thou. gal.	1,305	1106	1,400	1300	1,400	1300
1205	Coal	s. ton	0	0	0	0	0	0
1206	Purch. steam	BBtu	0	0	0	0	0	0
1207	Other	BBtu	0	0	0	0	0	0
1208		Total cost		13,606		14,300		14,300
1209	Energy-Intensive Facilities (thou. gross square feet)		6,394		6,500		6,600	

1-3. Exempt Facilities

	Entry	Consumption units	FY 2001 Annual consumption	FY 2001 Annual cost (thou. $)	FY 2002 Annual consumption	FY 2002 Annual cost (thou. $)	FY 2003 Annual consumption	FY 2003 Annual cost (thou. $)
1301	Electricity	MWH	0	0	0	0	0	0
1302	Fuel oil	thou. gal.	0	0	0	0	0	0
1303	Natural gas	thou. cu. ft.	0	0	0	0	0	0
1304	LPG/propane	thou. gal.	0	0	0	0	0	0
1305	Coal	s. ton	0	0	0	0	0	0
1306	Purch. steam	BBtu	0	0	0	0	0	0
1307	Other	BBtu	0	0	0	0	0	0
1308		Total cost		0		0		0
1309	Exempt Facilities (thou. gross square feet)		0		0		0	

FY 2001 OPDIV ENERGY USE REPORT

OPDIV: Indian Health Service
Date: 1-Sep-01

Prepared by: Adam T. Scully, P.E.
Phone: 301.443.4572

ENERGY CONSUMPTION AND COST DATA

Standard Buildings/Facilities

	Consumption Units	FY 2001 Annual Consumption	FY 2001 Annual Cost (Thou. $)	FY 2002 Annual Consumption	FY 2002 Annual Cost (Thou. $)	FY 2003 Annual Consumption	FY 2003 Annual Cost (Thou. $)
Electricity	kWH	127,444.0	8,890.0	140,000.0	9,500.0	140,000.0	9,500.0
Fuel Oil	Thou. Gal.	1,362.0	1,756.0	1,500.0	1,600.0	1,500.0	1,600.0
Natural Gas	Thou. Cu. Ft.	559,939.0	1,854.0	570,000.0	1,900.0	570,000.0	1,900.0
LPG/Propane	Thou. Gal.	1,305.0	1,106.0	1,400.0	1,300.0	1,400.0	1,300.0
Coal	S. Ton	0.0	0.0	0.0	0.0	0.0	0.0
Purch. Steam	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0
Other	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0
	Total Costs		13,606.0		14,300.0		14,300.0

Standard Buildings/Facilities Thous. Gross Square Feet: 6,394.0 (FY 2001); 6,500.0 (FY 2002); 6,600.0 (FY 2003)

FY 2001 Unit Cost ($)		Site-Delivered Btu (Million)	Est. Source Btu (Million)	Carbon Emissions (Metric Tons)
$69.756	/kWh	434.8	1,478.4	21
$1.289	/gallon	188,909.4	188,909.4	3,769
$3.311	/Thou Cu Ft	577,297.1	577,297.1	8,353
$0.848	/gallon	124,627.5	124,627.5	2,117
$0.000	/S. Ton	0.0	0.0	0
$0.000	/MMBtu	0.0	0.0	0
$0.000	/MMBtu	0.0	0.0	
		891,268.8	892,312.4	14,261
	Btu/GSF:	139,391	139,555	

FY 2002 Unit Cost ($)		Site-Delivered Btu (Million)	Est. Source Btu (Million)	Carbon Emissions (Metric Tons)
$67.857	/kWh	477.7	1,624.0	23
$1.067	/gallon	208,050.0	208,050.0	4,151
$3.333	/Thou Cu Ft	587,670.0	587,670.0	8,504
$0.929	/gallon	133,700.0	133,700.0	2,272
$0.000	/S. Ton	0.0	0.0	0
$0.000	/MMBtu	0.0	0.0	0
$0.000	/MMBtu	0.0	0.0	
		929,897.7	931,044.0	14,949
	Btu/GSF:	143,061	143,238	

FY 2003 Unit Cost ($)		Site-Delivered Btu (Million)	Est. Source Btu (Million)	Carbon Emissions (Metric Tons)
$67.86	/kWh	477.7	1,624.0	23
$1.07	/gallon	208,050.0	208,050.0	4,151
$3.33	/Thou Cu Ft	587,670.0	587,670.0	8,504
$0.93	/gallon	133,700.0	133,700.0	2,272
$0.00	/S. Ton	0.0	0.0	0
$0.00	/MMBtu	0.0	0.0	0
$0.00	/MMBtu	0.0	0.0	
		929,897.7	931,044.0	14,949
	Btu/GSF:	140,894	141,067	

Executive Order 13123 FY 2001 Energy Scorecard

Department/Agency Name	Contact Name and Phone
Indian Health Service	Adam T. Scully, P.E.
Name of Senior Energy Official	**Signature of Senior Energy Official**
Paul S. Fardig, P.E.	

Did your agency . . .	Yes	No	Anticipated Submittal Date
Submit its FY 2001 energy report to DOE for its Report to Congress (Sec. 303)?	Y		
Submit an Implementation Plan with its Annual Report (Sec. 302)?	Y		
Did your agency . . .	**Yes**	**No**	**Comments**
Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)?	Y		What percentage of facility space was audited during the fiscal year? 10 % How much facility space has been audited since 1992? 29 %
Specifically request funding necessary to achieve the goals of the Order in its FY 2003 budget request to OMB (Sec. 301)?	Y		If yes, how much: $1,500,000
Invest direct appropriations to accomplish projects contributing to the goals of the Order (Sec. 301)?	Y		If yes, how much: $ 500,000
Issue to private-sector energy service companies (ESCOs) any energy savings performance contracting (ESPC) task orders or contracts (Sec. 403(a))?	Y		How many? 1 Total value: $ 2,000,000 Est. life-cycle cost savings: ESCO share $ 2,700,000 Gov't share $ 0
Issue any utility energy services contracts (Sec. 403(a))?		N	How many? _____ Total value: $ _____ Est. life-cycle cost savings: Utility share $ _____ Gov't share $ _____
Implement renewable energy projects in FY 2000 (Sec. 204)?	Y		If yes, how many? Solar 2 Wind _____ Geothermal _____ Biomass _____ Other RE _____

Did your agency . . .	Yes	No	Comments
Participate in any new purchase of electricity generated from renewable energy in FY 2000 (Sec. 204)?		N	If yes, how much: _____ MWH
Adopt and apply the sustainable design principles set forth in the Whole Building Design Guide (www.wbdg.org) (Sec. 403(d))?	Y		
Incorporate energy efficiency criteria into all specifications, product descriptions, and standards (Sec. 403(b)(3))?	Y		
Provide training to its employees on energy management (Sec. 406(d))?	Y		How many employees trained? _ 43
Implement any additional management tools (Sec. 406)?	Y		Check all that apply: Awards Y Performance Evaluations ___ Showcase Facilities ___

NOTE: Provide additional information if a "no" reply is used for any of the questions above.

We will be working with the Area Facility Engineers to determine how we can perform more energy audits.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2000)	Current Year (2001)	% Change (Current vs. Base)
Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	148,416 Btu/Ft^2	161,881 Btu/Ft^2	139,391 Btu/Ft^2	-6.1 %
Source Energy Use (Sec. 206). 1985 Base Year	485 BBtu	473 BBtu	892 BBtu	83.9 %
Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	148,416 Btu/unit	161,881 Btu/unit	139,391 Btu/unit	-6.1 %
Greenhouse Gas Reduction Goal (Sec. 201). 1990 Base Year	32,900 MTCE*	29,203 MTCE*	14,461 MTCE*	-56.0 %
Water Conservation Goal (Sec. 207). 2000 Base Year	Not Available	Not Available	Not Available	0%
Renewable Energy (Sec. 204). Energy used from self-generation and RE power purchases	N/A	0 BBtu	0 BBtu	N/A

* Agencies may ask DOE to calculate this value and insert it for them

Abbreviation Key: Btu/Ft^2 = British thermal units per gross square foot
Btu/unit = British thermal units per unit of productivity (or gross square foot when such a unit is inappropriate or unavailable)
MTCE = Metric tons of carbon equivalent
MGal = Million gallons
BBtu = Billion British Thermal Units
RE = Renewable energy
N/A = Not applicable

IHS Annual Energy Reports

I. Management and Administration

A. Energy Management Infrastructure

1. **Senior Agency Official: The senior Agency Official is the Director, Division of Facilities Operations. This person supervises the Agency's Energy Coordinator.**

2. **The Agency Energy Team consists of 12 Area Offices (Aberdeen, Albuquerque, Alaska, Bemidji, Billings, California, Nashville, Navajo, Oklahoma City, Portland, Phoenix, and Tucson) and 2 Regional Offices (Engineering Service (ES) in Dallas and Seattle). The 12 Area Offices and 2 Engineering Services Offices each have a designated Energy Coordinator who is supervised by the Area Facility Engineers or ES Directors.**

B. Management Tools

1. **Awards: Describe the Area's use of employee incentive programs to reward exceptional performance in implementing Executive Order 13123.**

   No information to report.

2. **Performance Evaluations: Describe Area's efforts to include successful implementation of the requirements of Executive Order 13123 concerning the position descriptions and performance evaluations of senior energy officials, members of the OPDIV energy team, heads of field offices, and energy managers.**

   No information to report.

3. **Training Education: Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. Describe Area outreach programs that include education, training, and promotion of Energy Star® and other energy efficient products for Federal purchase card users. Highlight specific training courses attended by Area personnel.**

   Albuquerque-- Energy management sessions were provided for all facility managers and Health Facilities staff during the annual OEHE workshop. Additionally, each service unit has identified their specific training needs and have attended appropriate courses through various vendors. One Health Facilities (HF) engineer and one contract specialist attended the Super ESPC training in order to determine the applicability for upcoming projects. Two HF staff also attended the FEMP Energy 2001 conference. Area Office engineer attended a skills update for certified energy managers where they presented information regarding the latest energy efficient technology. On October 30,

2001, an Area Office engineer attended the mechanical and lighting portions of a live satellite broadcast of ASHRAE Standard 90.1-1999, which is the Energy Standard for Buildings Except Low-Rise Residential. DOE, ASHRAE and IES sponsored the broadcast.

Anchorage-- ANTHC provides energy management and conservation training to staff engineers. ANTHC engineers participate in energy conservation seminars and workshops. Energy conservation elements of HVAC and DDC systems are also covered at these seminars and workshops. Headquarters staff have trained facility managers and service unit staff on energy awareness.

Bemidji-- Energy conservation and management training opportunities have been announced to staff.

Phoenix-- For FY 2001 no formal energy related training is scheduled for Phoenix Area personnel. The service unit facility managers will continue receiving the Department of Energy FEMP FOCUS publication.

Portland-- The Portland Area Office sponsored a 3-day HVAC seminar in FY 2001. The seminar discussed elements critical to effective energy conservation. Over 30 Service Unit and Area personnel attended.

Tucson-- Training needs are re-assessed continually and training plans submitted annually. Specific courses included HVAC, air conditioning, appliance, and furnace servicing.

4. **Showcase Facilities: Highlight exemplary new or existing facilities that HHS should consider for DOE Federal Energy Saver Showcase Facilities in FY 2000. Describe why the facilities should be considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).**

No information to report.

II. Energy Efficiency Performance

A. Energy Reduction Performance:

IHS uses Btu-per-gross-square-foot (Btu/GSF) as a broad indicator of energy efficiency in measuring performance in Energy-Intensive facilities.

B. Renewable Energy:

1. **Self-Generated Renewable Energy: Identify/estimate energy use (in BBtu) from electricity self-generated from renewable energy thermal projects (solar thermal, geothermal).**

Albuquerque-- The Santa Fe and ACL hospitals both utilize solar energy collection systems. Improvements were made to both.

Nashville-- The Nashville Area hospitals have solar collection systems that reduce the total heating costs. When the systems are fully functional, they reduce energy usage up to 10 percent.

2. **Purchased Renewable Energy: Identify the renewable (i.e., wind, solar, geothermal, biomass) energy component of power purchases under competitive contract in megawatt-hours.**

   No information to report.

3. **Million Solar Roofs (MSR). Identify the total number of qualifying solar roofs, pool covers, solar projects, etc. for entering into MSR on-line registry (www.eren.doe.gov/millionroofs/register.html). Discuss where the solar roofs or projects were installed and/or challenges in installing solar roofs at certain facilities.**

   Albuquerque-- The Santa Fe and ACL hospitals were constructed and equipped with solar energy collection systems. Both ACL and Santa Fe Hospitals have installed solar powered outdoor lighting.

   Nashville-- The Cherokee Hospital and Choctaw Health Center have solar systems that are about twenty years old.

III. Implementation Strategies

A. **Life-Cycle Cost Analysis. Outline procedures in place to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Highlight examples where life-cycle cost analysis was used in capital budgeting decisions concerning energy efficiency. Report on the successes and challenges of implementing life-cycle cost effective projects. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken.)**

   Life-cycle cost (LCC) analysis is required on all contracts to lower energy and water consumption. The LLC analysis involves a savings to investment ratio (SR) analysis. This analysis is used to determine the priority of energy projects. The higher the SR, the more attractive the project becomes. Most projects that have been funded have a SR greater than 1.

   Aberdeen-- In preparation of entering into an Energy Savings Performing Contract (ESPC), the Area hired a DOE contractor to investigate and analyze energy saving projects at Area facilities. These opportunities are included as part of this ESPC contract. Life cycle cost analyses have been reported as part of the ESPC project documentation.

B. **Facility Energy Audits: See Attachment E - The IHS Energy Audit Trail, for a detailed listing of the facilities audit plan.**

   Approximately 29% of all Government owned facilities have been audited since 1992.

C. **Financing Mechanisms. Provide narrative information related to the use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs).**

The Aberdeen Area and Engineering Services-Seattle negotiated an ESPC with Johnson Controls in July 2001. The ESPC started in October 2001 with a 15-year contract period.

D. **Energy Star® and Other energy-Efficient Products. Describe steps taken to promote the purchase of Energy Star® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria have been incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria have been incorporated into product specification language.**

All new projects have Energy Star® and other energy efficient products incorporated into specifications.

E. **Energy Starr Buildings. Report the number and percentage of buildings that have met the Energy Starr Building criteria and have officially been designated Energy Starr Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the Energy Starr Buildings designation. See www.epa.gov/buildings/label.)**

No information to report.

F. **Sustainable Building Design. Report whether sustainable building design principles have been incorporated into the sighting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles.)**

No information to report.

G. **Energy Efficiency in Lease Provisions. Describe how energy and water efficiency are considered when OPDIVs enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development for certified Energy Star® Buildings, etc.)**

More energy efficient designs are incorporated into new facilities when they are replaced or new leases are requested.

H. **Energy-Intensive Facility Efficiency Improvements. Highlight activities undertaken to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.**

Anchorage-- The Alaska Area is conducting Energy Audits at six of the Area Hospitals. Two are complete and four more will be completed in 2002. The results will precipitate in energy projects to be accomplished through our normal project cycle; the funding committee

AHFAC meets twice yearly to consider projects. Projects for BBAHCs Kanakanak Hospital have already been approved and are waiting funding with FY 2002 dollars.

Bemidji-- Boilers were converted from fuel oil to natural gas. Cast iron boilers were replaced with energy efficient staged boiler systems. Lamps and ballasts were replaced with lower energy use models. DDCs were installed and air treatment was regulated. Variable speed HVAC units were installation that used digital controls.

Navajo-- In current renovation projects boilers have been replaced with energy efficient boilers, cooling towers have been replaced with energy efficient cooling towers that require less energy at start up. Flat plate heat exchanges have been installed.

I. Highly Efficient Systems. Describe new construction and/or retrofit projects for which combined cooling, heating, and power systems were installed. Report whether local natural resources were surveyed to optimize use of available biomass, geothermal or other naturally occurring energy sources.

Albuquerque-- Renovations are continuing at the Albuquerque Hospital to replace the old boiler/chiller system with a geothermal ground source heat pump loop system. The Zuni Hospital completed their energy efficiency replacement project. In addition, a new DDC HVAC energy management system is in design for the Zuni Hospital. Other projects such as, repairing leaks, installing stop valves, and replacing boiler components were also performed.

Anchorage-- A ground water cooling project is currently in design for the Alaska Native Medical Center in Anchorage.

J. Off-Grid Generation. Describe the installation of new solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives.

Albuquerque-- Solar powered outdoor lighting was installed at ACL hospital. With recent improvements made to the solar system at the hospital, it was possible to add the additional lighting in the parking areas.

Bemidji-- Installation of an off-grid power generator at White Earth Health Center proposed for 2003.

Billings-- A test program was tried at the Wind River Service Unit with the local utility company. The utility company installed a generator on the electrical grid system to reduce demand. After a one-year test, the project was deemed uneconomical.

K. Water Conservation. Highlight activities undertaken to improve water efficiency. Discuss progress in developing and implementing Water Management Plans for efficient use of water

Anchorage-- Will be analyzed during the hospital comprehensive energy audits conducted in 2002.

Bemidji-- Water softener units were installed that utilized reduced volume regeneration cycles.

Tucson-- The amount of water spent maintaining landscaping is decreasing through more efficient use. Replacement of irrigation system with lower usage system will be accomplished when funding becomes available. The amount of landscaping to be maintained will decrease.

L. Electrical Load Reduction Measures. Describe your plans for electrical load reduction that will be taken during power emergencies to cut electricity consumption its buildings and facilities.

Phoenix-- The area office will alert all service units within the area when energy reduction is needed. The service units will load the emergency generators, adjust thermostats, turn off lights, and shut down all unnecessary and nonessential equipments.

Portland-- The area Office will alert all Federal IHS Facilities within the area. The facilities will adjust building temperatures, turn off lights, and shut down other nonessential equipment.

Tucson-- During power emergencies, all non-essential personnel will be dismissed and power consumption in affected buildings greatly reduced. The critical facilities will remain operational but with temperature thermostats adjusted to reduce energy.

IHS Implementation Plan

I. Management and Administration

A. Energy Management Infrastructure

1. Senior Agency Official

The senior Agency Official is the Director, Division of Facilities Operations. This person supervises the Agency's Energy Coordinator.

2. Agency Energy Team

The Agency Energy Team consists of 12 Area Offices (Aberdeen, Albuquerque, Alaska, Bemidji, Billings, California, Nashville, Navajo, Oklahoma City, Portland, Phoenix, and Tucson) and 2 Regional Offices (Engineering Service (ES) in Dallas and Seattle). The 12 Area Offices and 2 Engineering Services Offices each have a designated Energy Coordinator who is supervised by the Area Facility Engineers or ES Directors.

3. Area Office Energy Program: Identify the structure of the Area's centralized energy program and how efforts are coordinated, facilitated, and information is disseminated. List special aspects of the program such as energy awareness campaigns, training, or other coordinated efforts to reduce energy and water consumption. If an Energy Team exists, list members of the team and describe the team's responsibilities. This may be the energy coordinator and direct coworkers or a group of facility.

The Energy Management Program is coordinated though the area energy coordinator. The area coordinator is responsible for coordinating the reporting, training, projects, and energy audit efforts. Service unit facility managers are responsible for managing their service unit energy consumption.

B. Management Tools

1. Awards: Describe the Area's use of employee incentive programs to reward exceptional performance.

Aberdeen-- These programs will be pursued in the 2002 as part of the energy awareness campaign.

Nashville-- We will be giving an Area Directors award to Facilities Managers that accomplish significant gains.

Portland-- Portland Area IHS and its Service Units will continue to recognize individuals and service units that demonstrate significant contributions to energy conservation and program management. Personnel are also nominated for national recognition for outstanding contributions in conserving energy.

2. Performance Evaluations: Describe Area's efforts to include successful implementation of the requirements of Executive Order 13123 concerning

the position descriptions and performance evaluations of senior energy officials, members of the OPDIV energy team, heads of field offices, and energy managers.

Aberdeen-- The Area Office mechanical engineer is responsible for energy management activities as stated in his job description. Energy management is part of his annual performance evaluation. This will continue in FY 2002.

Albuquerque-- The area is reviewing the requirements to determine changes in future evaluations.

Nashville-- Health Directors and Service Unit Directors will be encouraged to include the energy management program in the Facilities Managers performance evaluation.

3. **Training Education: Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. Describe Area outreach programs that include education, training, and promotion of Energy Star® and other energy efficient products for Federal purchase card users. Highlight specific training courses attended by Area personnel.**

Aberdeen-- Training and education for energy management will occur in FY 2002 in conjunction with the ESPC measurement and verification of energy reductions at Area facilities. The ESPC contractor, Johnson Controls, will be investigating further energy savings opportunities at Area facilities for consideration.

Albuquerque-- The area will continue to provide energy management sessions at the annual OEHE workshops. Positive comments were received from the facilities managers and staff regarding the inclusion of energy presentations during the previous workshops. Individual training will continue to be provided as necessary.

Nashville-- Issues of Energy Conservation and Management have been included in previous Area Workshops and will be included in next year's workshop.

Phoenix-- The service unit facility managers will continue receiving the Department of Energy FEMP FOCUS publication.

Tucson-- Training needs are re-assessed continually and training plans submitted annually. Specific courses include HVAC, air conditioning, appliance, and furnace servicing.

4. **Showcase Facilities: Highlight exemplary new or existing facilities that HHS should consider for DOE Federal Energy Saver Showcase Facilities in FY 2000. Describe why the facilities should be considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).**

Nashville-- Showcase facilities will be identified and recommended for DOE recognition.

II. Energy Efficiency Performance

A. Energy Reduction Performance:

IHS uses Btu-per-gross-square-foot (Btu/GSF) as a broad indicator of energy efficiency in measuring performance toward the goals for Energy-Intensive facilities and Standard facilities. The following Areas have Energy Intensive Buildings: Aberdeen, Albuquerque, Alaska, Billings, Nashville, Oklahoma City, Portland, Phoenix, and Tucson. The Bemidji and Navajo Areas have Standard Buildings.

B. Renewable Energy:

1. Self Generated Renewable Energy: Identify/estimate energy use (in BBtu) from electricity self-generated from renewable sources (photovoltaics, wind) and renewable energy thermal projects (solar thermal, geothermal).

Albuquerque-- Effort will be made to continue working with the solar and geothermal systems.

Nashville-- Improvements are needed at both hospitals for their solar systems. Instrumentation of existing system is necessary to monitor the energy output of the systems. The monitoring can be used to record performance, estimate savings, control maximum efficiency.

Phoenix-- Phoenix has no self generated renewable energy. Any self-generated renewable energy is dependent on the new energy audits.

2. Purchased Renewable Energy: Identify the renewable (i.e., wind, solar, geothermal, biomass) energy component of power purchases under competitive contract in megawatt-hours. (Note: Guidelines for counting renewable energy projects and purchases of electricity from renewable energy sources toward agency progress in reaching their goals are being developed by DOE for release in July 2000 and will be available on the FEMP Web site [www.eren.doe.gov/femp/aboutfemp.html].)

No information to report.

3. Million Solar Roofs (MSR). Identify the total number of qualifying solar roofs, pool covers, solar projects, etc. for entering into MSR on-line registry (www.eren.doe.gov/millionroofs/register.html). Discuss where the solar roofs or projects were installed and/or challenges in installing solar roofs at certain facilities.

Albuquerque-- Area will continue to maintain the existing solar systems and provide further upgrades as necessary. Additional solar lighting projects have been identified that will require further investigation.

Phoenix-- Any MSR projects will depend on the new energy audits.

III. Implementation Strategies

A. Life-Cycle Cost Analysis. Outline procedures in place to ensure the use of life-cycle cost analysis in making investment decisions about in

products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Highlight examples where life-cycle cost analysis was used in capital budgeting decisions concerning energy efficiency. Report on the successes and challenges of implementing life-cycle cost effective projects. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken.)

Currently there are 533 deficiencies in the IHS Backlog of Essential Maintenance, Alteration, and Repair (BEMAR) that are identified as Energy Conservation Opportunites (ECOs). A life cycle cost (LCC) analysis was freformed on all 533 deficiencies for the purpose of determining savings to investment Ratios. More than 50 percent of the ECO's have a savings to investment ration greater than 1.

Aberdeen-- The ESPC included energy savings projects at nine Area facilities. These projects have been analyzed and included in the ESPC to save energy with excellent pay back times.

Albuquerque-- Review will continue of the 1997 Energy Audits which utilized life-cycle cost analysis in the project recommendations.

Anchorage-- Life Cycle Cost Analysis is required of all energy projects submitted to the AHFAC for funding consideration.

Nashville-- Life-Cycle Cost Analysis will determine the priority of energy projects. The shorter the pay back period the more attractive the project becomes. Most projects that will be funded provide pay back within five years. All projects with less than 10 years of pay back will be strongly considered.

Navajo-- Life-Cycle Cost Analysis is reviewed when energy savings projects are included in the Workplan. Project cost is evaluated against the estimated energy savings before the project is approved for the Workplan.

Tucson-- Life-cycle cost analysis included in building procurement documents. Energy efficiency and maintenance cost estimates are considered when procuring equipment.

B. Facility Energy Audits:

The following indicates the percentage of all facilities scheduled to be audited for the respective year:
6.0% - 2002, 2.5% - 2003, 2.6% - 2004, 3.4% - 2005, 3.9% - 2006, 14.6% - 2007, 2.5% - 2008

C. Financing Mechanisms. Provide narrative information related to the use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs). Describe all contracts signed, in process, or under investigation and the projects planned for completion. Report funding requested and received for FY 2000 and funding requested for FY 2001 for the performance of energy surveys/audits and for applied energy conservation measures.

Aberdeen-- The Area ESPC with Johnson Controls is a 15-year contract beginning on October 1, 2001. The initial first year investment by Johnson Controls is nearly $2,000,000 to upgrade control systems at six

locations and lighting retrofits at nine locations. The energy savings at these locations is estimated at 23%.

Tucson-- Funding for all energy conservation work is currently from M&I or M&M funds.

D. Energy Star® and Other Energy-Efficient Products. Describe steps taken to promote the purchase of Energy Star® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria have been incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria have been incorporated into product specification language. (See the Energy Star® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eren.doe.gov/femp/procurment/begin.html]

With all new projects, procurement of Energy Star® and other energy efficient products are incorporated into specifications.

Billings-- All designs provided by the Billings Area Facilities Management staff-use MASTERSPEC for specification writing. MASTERSPEC is updated quarterly with the latest energy efficient products.

E. Energy Star(r) Buildings. Report the number and percentage of buildings that have met the Energy Star® Building criteria and have officially been designated Energy Star® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the Energy Star® Buildings designation. See www.epa.gov/buildings/label.)

No information to report.

F. Sustainable Building Design. Report whether sustainable building design principles have been incorporated into the sighting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles.)

The Health Facilities Planning Manual is used for all renovation and new facilities construction. Energy efficiency is incorporated into the design, as is the use of energy efficient products.

Albuquerque-- Staff will utilize all applicable guidelines and principles regarding energy efficiency into the sighting, design, and construction of new facilities.

Portland-- A major clinic expansion at Wellpinit, WA utilizes energy efficient designs and products. New health facility projects a Kamiah ID, Tulalip, and Quinault WA will also include energy efficient designs.

G. Energy Efficiency in Lease Provisions. Describe how energy and water efficiency are considered when OPDIVs enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified Energy Star® Buildings, etc.).

Energy and water efficiency will continue to be considered when renegotiating or extending leases.

H. Energy-Intensive Facility Efficiency Improvements. Highlight activities undertaken to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

Aberdeen-- Energy efficiency opportunities will be considered in all related construction projects and equipment replacements beginning in FY 2002. The ESPC contractor will also be researching energy efficiency opportunities for consideration.

Albuquerque-- The service units will be encouraged to explore projects for energy efficiency versus routine repairs/preventative maintenance and to coordinate those opportunities within the area.

Anchorage-- The Alaska Area is conducting Energy Audits at four of the Area Hospitals. The results will precipitate in energy projects to be accomplished through our normal project cycle; the funding committee AHFAC meets twice yearly to consider projects. Projects for BBAHCs Kanakanak Hospital have already been approved and are waiting funding with FY 2002 dollars.

I. Highly Efficient Systems. Describe new construction and/or retrofit projects for which combined cooling, heating, and power systems were installed. Report whether local natural resources were surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

Anchorage-- A ground water cooling project is currently in design for the Alaska Native Medical Center in Anchorage. A test well has been drilled to assess flow rates, which will determine the final project configuration. The project feasibility study was completed in 2001 and construction would move forward when the project permitting and final design have been accomplished. This is anticipated as an FY 2002 project.

Nashville-- Cherokee Hospital is planning to expand the control of the DDC system to also control local VAV boxes. This change will allow more effective control of temperatures within individual rooms.

J. Off-Grid Generation. Describe the installation of new solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives.

Anchorage-- Not assessed yet. There is some wind generation that serves the electric grid in Kotzebue Alaska, but not specifically addressing the hospital electrical load.

K. Water Conservation. Highlight activities undertaken to improve water efficiency. Discuss progress in developing and implementing Water Management Plans for efficient use of water.

Anchorage-- Not assessed yet. This will be assessed through the six hospital energy audits that were completed in 2001.

Phoenix-- Energy audits done in FY 2001 included identifying feasible water conservation projects.

L. Electrical Load Reduction Measures. Describe your plans for electrical load reduction that will be taken during power emergencies to cut electricity consumption its buildings and facilities.

Phoenix-- The area office will alert all service units within the area when energy reduction is needed. The service units will load the emergency generators, adjust thermostats, shut down all unnecessary and nonessential equipments, turn off lights, etc.

Portland-- The Area Office will alert all Federal IHS Facilities within the Portland Area. The facilities will adjust building temperatures, turn off lights, and shut down other nonessential equipment.

Tucson-- During power emergencies, all non-essential personnel will be dismissed and power consumption in affected buildings greatly reduced. The critical facilities will remain operational but with temperature thermostats adjusted to reduce energy.